

### ABSTRACT OF THE DISCLOSURE

5 A device and method for tuning a planar filter through a wide range of center frequencies are disclosed. The tuning assembly includes a superconductive tuning tip and an actuator configured and adapted to move the tuning tip through a sufficient range of distances from a resonator or a portion thereof to vary the resonant frequency of the resonator by at least about 10% of the untuned frequency in at least one increment of 0.01% or smaller. An actuator and a position-sensor can be employed in a closed loop feedback system to control the position of the tuning tips.

10 A method of tuning a filter according to the invention includes moving a tuning tip through a sufficient range of distances from a resonator to vary the resonant frequency of the resonator by at least about 10% in at least one increment of 0.01% or smaller.